

5 CLAIMS

What is claimed is:

1. A method for high quality voice communication over an IP network,  
10 the method implemented using an IP network device, comprising the steps of:
  - a) transmitting a path message for a voice communication, the path  
message configured for establishing a communications path through an IP  
network;
  - b) receiving a reservation message in response to the path message,  
15 the reservation message specifying a range of voice streams for a bandwidth  
reservation; and
  - c) implementing the bandwidth reservation for the range of voice  
streams in accordance with the reservation message.
- 20 2. The method of Claim 1 wherein the path message is transmitted  
from an originating IP network device.
3. The method of Claim 1 wherein the reservation message is  
transmitted from a terminating IP network device.
- 25 4. The method of Claim 1 further including the step of generating the  
path message using a voice application executing on an originating IP network  
device.

5           5. The method of Claim 1 further including the step of receiving the reservation message from a terminating IP network device, the reservation message generated by the terminating IP network device.

10           6. The method of Claim 1 further including the steps of:  
            updating a bandwidth reservation table in accordance with the reservation message; and  
            reserving bandwidth for transmission of the range of voice streams using the reservation table.

15           7. The method of Claim 6 wherein the reservation table is a filter specification table in accordance with a version of the RSVP (Resource Reservation Protocol) specification.

20           8. The method of Claim 6 wherein the reservation message is a filter specification object in accordance with a version of the RSVP (Resource Reservation Protocol) specification.

25           9. The method of Claim 1 wherein the reservation message includes a source port range specifying the range of voice streams.

~~10.~~ An IP network apparatus for implementing high quality voice communication over an IP network, comprising:

            a) means for transmitting a path message for a voice communication, the path message configured for establishing a communications path through  
30     an IP network;

5           b) means for receiving a reservation message in response to the path message, the reservation message specifying a range of voice streams for a bandwidth reservation; and

          c) means for implementing the bandwidth reservation for the range of voice streams in accordance with the reservation message.

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11. The apparatus of Claim 10 wherein the path message is transmitted from an originating IP network device.

12. The apparatus of Claim 10 wherein the reservation message is  
15 transmitted from a terminating IP network device.

13. The apparatus of Claim 10 further including a means for generating the path message using an application executing on an originating IP network device.

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14. The apparatus of Claim 10 further including a means for receiving the reservation message from a terminating IP network device, the reservation message generated by the terminating IP network device.

25           15. The apparatus of Claim 10 further including means for updating a bandwidth reservation table in accordance with the reservation message, and means for reserving bandwidth for transmission of the range of voice streams using the reservation table.

5           16. The apparatus of Claim 15 wherein the reservation table is a filter  
specification table in accordance with a version of the RSVP (Resource  
Reservation Protocol) specification.

10           17. The apparatus of Claim 16 wherein the reservation message is a  
filter specification object in accordance with a version of the RSVP (Resource  
Reservation Protocol) specification.

18. The apparatus of Claim 10 wherein the reservation message  
includes a source port range specifying the range of voice streams.

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~~19.~~ A computer readable medium having stored thereon computer  
readable instructions, which when executed by a computer system of an IP  
network device cause the computer system to implement a method for high  
quality voice communication over an IP network, the method comprising the  
20 steps of:

a) transmitting a path message for a voice communication, the path  
message configured for establishing a communications path through an IP  
network;

b) receiving a reservation message in response to the path message,  
25 the reservation message specifying a range of voice streams for a bandwidth  
reservation; and

c) implementing the bandwidth reservation for the range of voice  
streams in accordance with the reservation message.

30           20. The method of Claim 19 wherein the path message is transmitted  
from an originating IP network device.

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21. The method of Claim 19 wherein the reservation message is transmitted from a terminating IP network device.

10 22. The method of Claim 19 further including the step of generating the path message using a voice application executing on an originating IP network device.

15 23. The method of Claim 19 further including the step of receiving the reservation message from a terminating IP network device, the reservation message generated by the terminating IP network device.

24. The method of Claim 19 further including the steps of:  
updating a bandwidth reservation table in accordance with the reservation message; and  
20 reserving bandwidth for transmission of the range of voice streams using the reservation table.

25 25. The method of Claim 24 wherein the reservation table is a filter specification table in accordance with a version of the RSVP (Resource Reservation Protocol) specification.

26. The method of Claim 24 wherein the reservation message is a filter specification object in accordance with a version of the RSVP (Resource Reservation Protocol) specification.

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5           27. The method of Claim 19 wherein the reservation message includes a  
source port range specifying the range of voice streams.

10           28. An IP network device for providing high quality voice  
communication over an IP network, the device including a computer system  
for executing computer readable instructions, which when executed by the  
computer system cause the IP network device to implement the steps of:

15           a) transmitting a path message for a voice communication, the path  
message configured for establishing a communications path through an IP  
network;

b) receiving a reservation message in response to the path message,  
the reservation message specifying a range of voice streams for a bandwidth  
reservation; and

20           c) implementing the bandwidth reservation for the range of voice  
streams in accordance with the reservation message.

25           29. The IP network device of Claim 28 wherein the IP network device is  
an originating IP network device and the path message is transmitted  
therefrom.

30           30. The IP network device of Claim 28 wherein the IP network device is  
a terminating IP network device and is configured to transmit the reservation  
message in response to a received path message.

31. The IP network device of Claim 28 wherein a voice application  
executing on the computer system generates the path message.

5           32. The IP network device of Claim 28 wherein the reservation message  
is received from a terminating IP network device, the reservation message  
generated by the terminating IP network device.

10           33. The IP network device of Claim 28 wherein the bandwidth  
reservation table is updated in accordance with the reservation message, and  
wherein bandwidth for transmission of the range of voice streams is reserved  
using the reservation table.

15           34. The IP network device of Claim 33 wherein the reservation table is  
a filter specification table in accordance with a version of the RSVP (Resource  
Reservation Protocol) specification.

20           35. The IP network device of Claim 33 wherein the reservation message  
is a filter specification object in accordance with a version of the RSVP  
(Resource Reservation Protocol) specification.

            36. The IP network device of Claim 28 wherein the reservation message  
includes a source port range specifying the range of voice streams.